Table 3.6.1. Location and date information for the rockbag macroinvertebrate sampling sites the Long Creek and Red Brook watersheds.

Site Code	Alternative Name	Habitat Type	Sampling Method	DEP Log No.	River Basin	Coordinates - Latitude	Coordinates - Longitude	Township	Stream Order	Stream Gradient (from topo) %	Date Sampler Set	Date Sampler Retrieved	Collectors	Notes
			a	a	a	a	a	a	a	a	a	a	a	
LC-S-0.369	Hoyts	sandy run	Rockbag	849	Presumpscot/Fore	43° 37' 58"	70° 19' 17"	S. Portland	1	0.52	8/5/99	8/31/99	JV, DK, MED	Middle rockbag covered by about 6 inches of sand on pick-up date.
LC-M-0.380	V-Tec RW	sandy run	Rockbag	851	Presumpscot/Fore	43° 38' 06"	70° 19' 33"	S. Portland	2	0.36	8/5/99	9/2/99	JV, GB	
LC-M-0.910	Service Merchandise	sandy run	Rockbag	852	Presumpscot/Fore	43° 38' 22"	70° 19' 42"	S. Portland	2	0.36	8/5/99	8/31/99	JV, DK, MED	
LC-M-2.270	Sable Oaks	sandy run	Rockbag	854	Presumpscot/Fore	43° 38' 51"	70° 20' 54"	Westbrook	1	0.30	8/6/99	9/2/99	JV, GB	
LC-Mn-2.274	Goodyear	sandy run	Rockbag	853	Presumpscot/Fore	43° 38' 53"	70° 20' 54"	Westbrook	1	0.31	8/6/99	9/2/99	JV, GB	
LC-N-0.415	V-Tec LW	sandy run	Rockbag	850	Presumpscot/Fore	43° 38' 07"	70° 19' 33"	S. Portland	2	0.43	8/5/99	9/2/99	JV, GB	
RB-0.071	HQ	sandy run	Rockbag	855	Presumpscot/Fore	43° 37' 40"	70° 19' 31"	S. Portland	2	0.17	8/6/99	8/31/99	JV, DK, MED	
RB-1.474	La-z-boy	sandy run	Rockbag	856	Presumpscot/Fore	43° 37' 35"	70° 20' 43"	Scarborough	2	0.37	8/5/99	9/3/99	JV	Also, when I left rockbags on point bar (after they had been cleaned of inverts) until the time I returned, I found one of the rockbags 60% buried in sand. (There must have been a storm prior to my return.)
RB-3.961	RWS	sandy run	Rockbag	857	Presumpscot/Fore	43° 38' 22"	70° 22' 46"	Scarborough	1	0.42	8/5/99	9/3/99	JV	

Table 3.6.2. Location and date information for the multi-habitat macroinvertebrate sampling sites the Long Creek and Red Brook watersheds.

	Sample Collection...					[Indicate the number of jabs / kicks taken in each habitat type]												
Site Code	Habitat Type	Sampling Method	How was sample collected?	Date Sample Was Collected	Time	Riffles	Stream Banks	Snags	Banks	Leaf Packs	Submerged Macro-phytes	Other (sand)	General Comments	Date Habitat Analysis Was Performed	Weather Now	Weather Over Past 24 Hours	Has There Been a Heavy Rain in the Past 7 Days?	Notes About Site
LC-S-0.016	sandy-silty run	D-frame net	wading	9/26/99	2:30 PM	0	0	3	2	2	0	3						
LC-S-0.369	sandy-silty run	D-frame net	wading	9/22/99	11:00 AM	0	0	3	2	2	0	3	Sampled 5 days after a 4.4" rainfall and 12 hrs after after a 0.06" rainfall; very close to baseflow; sand was deposited on the floodplain & the vegetation appears to have been blown down by flooding	10/11/99	clear / sunny	clear / sunny	No	
LC-S-0.496	sandy-silty run w/ macro-phytes	D-frame net	wading	9/26/99	5:00 PM	0	0	2	0	0	6	2		10/24/00	clear / sunny	clear / sunny	1.1" 5 days ago	
LC-M-0.380	sandy-silty run	D-frame net	wading	9/22/99	1:30 PM	0	0	3	2	2	0	3		10/11/99	clear / sunny	clear / sunny	No	2 large culverts upstream of this site are pointed directly at a steep, long streambank. Property at the top of the hill appears as though it will be threatened in a few years.
LC-M-0.533	riffle	D-frame net	wading	9/24/99	2:30 PM	10	0	0	0	0	0	0	The riffle appears to exist mainly because of road and riprap debris, although is a little bit of bedrock outcropping on on bank.	10/24/00	clear / sunny	clear / sunny	1.1" 5 days ago	Riffle appears to be a result of road-building debris. This was confirmed after seeing a 1980's photo in an IF&W photograph.
LC-M-0.910	sandy-silty run	D-frame net	wading	9/23/99	11:00 AM	0	0	3	2	2	0	3		10/11/99	clear / sunny	clear / sunny	No	Appears to be some petroleum flecks on the surface of the water, especially below the "Service Merchandise" storm outlet.
LC-M-2.191	riffle	D-frame net	wading	9/24/99	3:30 PM	10	0	0	0	0	0	0	Less cobble and more silt than LC Dunkin Donuts site; big, slow scour pool upstream of this site.					
LC-M-2.270	sandy-silty run	D-frame net	wading	9/23/99	12:00 PM	0	0	3	2	2	0	3		10/11/99	clear / sunny	clear / sunny	No	
LC-Mn-2.274	sandy-silty run	D-frame net	wading	9/23/99	12:30 PM	0	0	3	2	2	0	3		10/11/99	clear / sunny	clear / sunny	No	
LC-Mw-2.896	sandy-silty run	D-frame net	wading	9/26/99	10:30 AM	0	0	3	2	2	0	3		11/3/00	80% cloud cover	clear / sunny	No (but did get ~ 0.3" 3 days ago)	Study site is immediately above a powerline clearing. Nearby, on the other fork of the main branch of LC (basically the reach between the Jordan' Meats and Spring St.), is an impoundment that backs up a lot of water also results in a lot of emergent macrophytes upstream of the dam and a lot of submergent macrophytes downstream of the dam. This situation probably is the factor which explains low DO values on this branch.
LC-N-0.415	sandy-silty run w/ some pea gravel	D-frame net	wading	9/22/99	12:00 PM	0	0	3	2	2	0	3	Saw some minnows.	10/11/99	clear / sunny	clear / sunny	No	
LC-N-0.850~	sandy-silty run	D-frame net	wading	9/26/99	2:00 PM	0	0	3	2	2	0	3		11/2/00	clear / sunny	80% cloud cover	No (but did get ~ 0.3" 2 days ago)	There is a some of junk/debris at this site. The channel is fairly constrained (by fill?) from Rt. 9 to about Gold's Gym. About 100 m below Gold's Gym, the area opens up into a much less confined area (a powerline runs through here and a lot of the landscape is covered by cattails. Then the channel begins to braid through a bunch of vegetated clay islands. Eventually, the channel becomes sinuous again. Trash continues to be a problem.
RB-0.071	sandy-silty run	D-frame net	wading	9/23/99	3:30 PM	0	0	3	2	2	0	3	Some blue-green algae (slimes), I believe.	10/12/99	clear / sunny	clear / sunny	No	
RB-1.474	sandy-silty run	D-frame net	wading	9/24/99	12:30 PM	0	0	3	2	2	0	3		10/12/99	clear / sunny	clear / sunny	No	Banks are downcutting much faster than RWS (reference site).
RB-1.500~	riffle	D-frame net	wading	9/25/99	4:00 PM	10	0	0	0	0	0	0			clear / sunny	clear / sunny		
RB-3.961	sandy-silty run	D-frame net	wading	9/23/99	4:30 PM	0	0	3	2	2	0	3		10/12/99	clear / sunny	clear / sunny	No	

Table 3.6.2 cont'd.

Site Code	Date Analysis Performed	Weather Now	Weather Over Past 24 Hours	Has There Been a Heavy Rain in the Past 7 Days?	Notes About Site
LC-M-0.020~	11/2/00	50% cloud cover	50% cloud cover	No (but did get ~ 0.3" 2 days ago)	
LC-M-0.603	11/2/00	clear / sunny	50% cloud cover	No (but did get ~ 0.3" 2 days ago)	
LC-M-1.653	11/3/00	40% cloud cover	clear / sunny	No (but did get ~ 0.3" 3 days ago)	In the upper part of this reach, the channel is headed towards a big hill and it is starting to eat away at the hill (slowly). Fortunately, the hill is well-vegetated, so the there is some cohesion of the bank materials. For the remainder (& majority) of the reach, there is a lot of room for lateral migration and fairly good access to the floodplain.
LC-M-3.098	10/27/00	85% cloud cover	85% cloud cover	No	
LC-Mn-3.224~	11/3/00	70% cloud cover	clear / sunny	No (but did get ~ 0.3" 3 days ago)	
LC-N-0.585	11/2/00	clear / sunny	80% cloud cover	No (but did get ~ 0.3" 2 days ago)	

Table 3.6.3. Channel substrate and aquatic vegetation conditions at the biotic sampling sites in the Long Creek and Red Brook watersheds. For more information about the measures, see the Results section. *[Numbers in brackets refer to sites that appeared to have diatoms present, but apparently no other types of aquatic vegetation.]

	Organic Substrate Components (Do not necessarily add up to 100%)				Sediment / Substrate				Aquatic Vegetation.....	
Site Code	Detritus (sticks, wood, coarse plant materials) [CPOM]	Muck-Mud (black, very fine organic) [FPOM]	Marl (grey, shell fragments)		Odors	Oils	Deposits (of sludge, sawdust, paper fiber, relict shells)		Indicate the dominant type and record the dominant species present.	Portion of the reach with aquatic vegetation (%) *
LC-S-0.016	n/a	n/a	n/a		n/a	n/a	n/a		n/a	n/a
LC-S-0.369	35	50	0		Normal	Not observed	Not observed		Diatoms	*[25]*
LC-S-0.496	40	15	0		Slightly anaerobic	Not observed	Not observed		Rooted submergent, rooted emergent, attached algae	90
LC-M-0.380	20	50	0		Normal	Not observed	Not observed		Rooted submergent (grasslike); Diatoms	25
LC-M-0.533	10				Normal	Not observed	Not observed		Rooted submergent	5
LC-M-0.910	30	40	0		Normal	Not observed	Sand		Rooted submergent (grasslike); Diatoms	30
LC-M-2.191	n/a	n/a	n/a		n/a	n/a	n/a		n/a	n/a
LC-M-2.270	50	70	0		Slightly anaerobic	Not observed	Not observed		Rooted submergent (grasslike); Diatoms	25
LC-Mn-2.274	25	40	0		Normal	Not observed	Not observed		Diatoms	*[20]*
LC-Mw-2.896	80				Normal	Not observed	Not observed		--	--
LC-N-0.415	40	40	0		Normal	Not observed	Not observed		Diatoms	*[25]*
LC-N-0.850~	20				Normal - slightly anaerobic	Slight	Not observed		Rooted emergent	5
RB-0.071	30	50	0		Normal	Not observed	Not observed		Diatoms	*[25]*
RB-1.474	15	70	0		Normal	Not observed	Not observed		Diatoms	*[25]*
RB-1.500~	n/a	n/a	n/a		n/a	n/a	n/a		n/a	n/a
RB-3.961	30	60	0		Normal	Not observed	Not observed		Diatoms (less than 5% area having macrophytes)	*[25]*

Table 3.6.3. cont'd

	Organic Substrate Components (Do not necessarily add up to 100%)				Sediment / Substrate				Aquatic Vegetation.....	
Site Code	Detritus (sticks, wood, coarse plant materials) [CPOM]	Muck-Mud (black, very fine organic) [FPOM]	Marl (grey, shell fragments)		Odors	Oils	Deposits		Indicate the dominant type and record the dominant species present.	Portion of the reach with aquatic vegetation (%)
LC-M-0.020~	Too deep to tell	Too deep to tell			Normal	Not observed	Not observed		Too deep to tell	?
LC-M-0.603	20				Normal - slightly anaerobic	Not observed	Not observed		Attached algae	5
LC-M-1.653	40				Normal	Slight	Not observed		Rooted submergent (near the periphyton sampling site)	35
LC-M-3.098	20				Normal - slightly anaerobic	Not observed	Not observed		Rooted emergent; Rooted submergent	40
LC-Mn-3.224~	50				Normal	Not observed	Not observed			0
LC-N-0.585	20				Normal	Not observed	Not observed		Attached algae	5

Table 3.6.4. Riparian zone and water quality observations at the biotic sampling sites in the Long Creek and Red Brook watersheds.
"Dn", "Mid", and "Up" stand for downstream, midstream, and upstream rockbags, respectively.

	Riparian Vegetation				%shaded canopy (measured with densiometer)					[2]	Water Quality.....		
Site Code	Indicate the most dominant type.	Indicate the 2nd most dominant type.	Indicate the 3rd most dominant type.	Canopy Cover	%shaded canopy : DN	%shaded canopy: MID	%shaded canopy : UP	**% Shaded Canopy : Average for Site**	**std. dev.** (% Shaded Canopy)	**Stream Cover (% shaded)**	Odors	Surface Oils	Turbidity
LC-S-0.016	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LC-S-0.369	trees	grasses	herbaceous	Partly open	90.4	90.4	92.2	**91.0**	**1.1**	dense	Normal	Flecks	Slightly turbid
LC-S-0.496	trees	grasses	herbaceous	Partly shaded							Normal	Sheen (in a few spots)	Slightly turbid
LC-M-0.380	trees	herbaceous	grasses	Partly open	88.0	83.4	84.7	**85.4**	**2.4**	dense	Normal	Slight presence	Turbid
LC-M-0.533	grasses	herbaceous	trees	Partly open							Normal	None observed	Slightly turbid
LC-M-0.910	trees	herbaceous	grasses	Partly shaded	79.7	78.4	80.0	**79.4**	**0.8**	dense	Normal	Small presence of slicks	Slightly turbid
LC-M-2.191	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LC-M-2.270	herbaceous	grasses	trees	Partly open	87.0	75.6	81.5	**81.4**	**5.7**	dense	Normal	None observed	Slightly turbid
LC-Mn-2.274	trees	grasses	herbaceous	Partly open	93.2	89.9	89.3	**90.8**	**2.1**	dense	Normal	None observed	Slightly turbid
LC-Mw-2.896	trees	grasses	herbaceous	Partly open							Normal	None observed	Slightly turbid
LC-N-0.415	trees	herbaceous	grasses	Partly open	85.2	88.0	91.2	**88.1**	**3.0**	dense	Normal	Slight presence	Slightly turbid
LC-N-0.850~	shrubs	herbaceous	trees	Partly shaded							Normal	None observed	Slightly stained
RB-0.071	trees	grasses	herbaceous	Shaded	90.1	90.9	92.2	**91.1**	**1.1**	dense	Normal	Slight presence	Slightly turbid
RB-1.474	trees	grasses	herbaceous	Shaded	93.5	91.4	94.3	**93.1**	**1.5**	dense	Normal	None observed	Stained
RB-1.500~	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RB-3.961	trees	grasses	herbaceous	Shaded	93.5	89.3	89.9	**90.9**	**2.3**	dense	Normal	Flecks	Stained

Table 3.6.4 cont'd.

	Riparian Vegetation											Water Quality.....		
Site Code	Indicate the most dominant type.	Indicate the 2nd most dominant type.	Indicate the 3rd most dominant type.	Canopy Cover								Odors	Surface Oils	Turbidity
LC-M-0.020~	trees	herbaceous	grasses	Partly open								Normal	None observed	Turbid
LC-M-0.603	trees	herbaceous	grasses	Partly open								Normal	None observed	Turbid
LC-M-1.653	trees	herbaceous	grasses	Partly open								Normal	None observed	Slightly turbid
LC-M-3.098	trees	herbaceous	grasses	Partly open								Normal	None observed	Clear
LC-Mn-3.224~	trees	--	--	Shaded								Normal	None observed	Clear
LC-N-0.585	trees	herbaceous	grasses	Partly open								Normal	Globs of orange slime (iron bacteria?)	Slightly turbid

Table 3.6.5. Channel morphology and water velocity conditions at the biotic sampling sites in the Long Creek and Red Brook watersheds. "Dn", "Mid", and "Up" stand for downstream, midstream, and upstream rockbags, respectively. Note: The Globe flow probe was not sensitive enough in this situation, so velocity was measured using floating detritus at the rockbag sites. "Est." represents "estimated".

	In-Stream Features.....			Proportion of Stream Represented by Stream Morphology Types (%)			Sampler Placement.....[5].....										[5].....				[5].....
Site Code	Est. Stream Width (m)	Est. Stream Depth (m)	Est. Reach Length Used in Habitat Analysis (m)	Riffle	Run	Pool	width Dn (m)	width Mid (m)	width Up (m)	**width mean (m)**	s.d.	depth Dn (cm)	depth Mid (cm)	depth Up (cm)	**depth mean (cm)**	s.d.	velocity Dn (cm/s)	velocity Mid (cm/s)	velocity Up (cm/s)	**velocity mean (cm/s)**	s.d.
LC-S-0.016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LC-S-0.369	2	0.35	100	0	80	20	2.00	1.51	2.13	1.88	0.33	30	25	33	29	4	0.42	0.36	0.36	0.4	0.0
LC-S-0.496	2	0.4	175	0	100	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LC-M-0.380	5	0.4	100	0	70	30	4.70	5.00	5.30	5.00	0.30	40	40	36	39	2	0.42	0.36	0.36	0.4	0.0
LC-M-0.533	4	0.6	100	10	50	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LC-M-0.910	2.4	0.3	100	0	60	40	2.30	2.60	2.10	2.33	0.25	26	24	30	27	3	0.51	0.64	0.51	0.6	0.1
LC-M-2.191	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LC-M-2.270	1.5	0.2	100	0	80	20	1.10	1.50	1.20	1.27	0.21	16	20	16	17	2	0.64	0.85	0.51	0.7	0.2
LC-Mn-2.274	1.3	0.2	100	0	80	20	1.20	1.30	1.20	1.23	0.06	23	20	17	20	3	0.51	0.51	0.64	0.6	0.1
LC-Mw-2.896	0.8	0.2	100	0	80	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LC-N-0.415	2.5	0.25	100	0	75	25	2.80	2.50	2.50	2.60	0.17	22	25	24	24	2	0.85	0.85	0.64	0.8	0.1
LC-N-0.850~	1.5	0.2	200	5	70	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RB-0.071	4	0.35	100	0	70	30	3.70	3.30	3.40	3.47	0.21	34	29	22	28	6	0.51	0.51	0.64	0.6	0.1
RB-1.474	3.5	0.3	100	0	50	50	3.50	3.20	2.90	3.20	0.30	30	29	26	28	2	0.64	0.51	0.51	0.6	0.1
RB-1.500~	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RB-3.961	2.5	0.3	100	5	55	40	2.40	2.60	3.40	2.80	0.53	18	25	32	25	7	0.64	0.64	0.85	0.7	0.1

Table 3.6.5. cont'd.

	In-Stream Features.....			Proportion of Stream Represented by Stream Morphology Types (%)		
Site Code	ed Stream Width (m)	ed Stream Depth (m)	Reach Length Used in Habitat Analysis (m)	Riffle	Run	Pool
LC-M-0.020~	6	1	200	0	30	70
LC-M-0.603	3.5	0.6	200	5 (riprap?)	35	60
LC-M-1.653	2.5	0.7	200	0	50	50
LC-M-3.098	0.5	0.15	200	0	60	40
LC-Mn-3.224~	1	0.2	70	5	65	30
LC-N-0.585	2	0.15	200	5 (riprap?, junk/bricks)	60	35